a Resistor-Capacitor (RC) network, connected to the joystick device, said RC network having a capacitor that generates an analog joystick position measurement signal; and

an interface circuit having a second source voltage that is lower than the first source voltage, including

a buffer circuit, in a first operation mode of said interface, receiving [an] said analog joystick position measurement signal [from said joystick device], outputting a first logic state as a digital signal before said analog joystick measurement signal exceeds said predetermined threshold, and outputting a second logic state as said digital signal after said analog joystick measurement signal exceeds said predetermined threshold; and

a pulse generator generating a pulse based on said digital signal in said first operation mode of said interface, a width of said pulse representing a coordinate position of said joystick device, the capacitance value of said capacitor being a function of said predetermined threshold that prevents deviation of the width of said pulse from expected values.

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8. (Amended) The interface of claim 1, [further comprising:

a Resistor-Capacitor (RC) network, connected to said joystick device, generating said analog joystick position measurement signal,] wherein said RC network capacitor [being] is preselected as a function of said predetermined threshold to satisfy [in accordance with] the formula:

$$Cnew = \frac{11nF}{\ln(\frac{5V}{5V - Vtnew})} \text{ for } Vtnew < 5.0 \text{ Volts,}$$

T.0180

where Cnew represents the capacitance of the RC network capacitor, and Vtnew represents said predetermined threshold.

A2 Cont.

9. (Amended) A processor based system, comprising:

a processor[:];

a joystick device having a first source voltage; and

an interface interfacing said joystick device with said processor, said interface including,

a Resistor-Capacitor (RC) network, connected to the joystick device, said RC network having a capacitor that generates an analog joystick position measurement signal; and

an interface circuit having a second source voltage that is lower than the first source voltage, including

a buffer circuit, in a first operation mode of said interface, receiving [an] said analog joystick position measurement signal [from said joystick device], outputting a first logic state as a digital signal before said analog joystick measurement signal exceeds said predetermined threshold, and outputting a second logic state as said digital signal after said analog joystick measurement signal exceeds said predetermined threshold, and

a pulse generator generating a pulse based on said digital signal in said first operation mode of said interface, a width of said pulse representing a coordinate position of said joystick device, and outputting said pulse to said processor, wherein the capacitance value of said capacitor is a function of said predetermined threshold that prevents deviation of the width of said pulse from expected values.

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13. (Amended) The interface of claim 9, [further comprising:

a Resistor-Capacitor (RCA) network, connected to said joystick device, generating said analog joystick position measurement signal,] wherein said RC network capacitor [being] is preselected [in accordance with] as a function of said predetermined threshold to satisfy the formula:

T1 0200

$$Cnew = \frac{11nF}{\ln(\frac{5V}{5V - Vtnew})} \text{ for } Vtnew < 5.0 \text{ Volts,}$$

where Cnew represents the capacitance of the RC network capacitor, and Vtnew represents said predetermined threshold.

14. (Amended) A method of interfacing a joystick device having a first source voltage with a processor, comprising:

(a) receiving an analog joystick measurement signal from [said joystick device] a Resistor-Capacitor (RC) network connected to the joystick device, said RC network having a capacitor that generates said analog joystick measurement signal;

(b) generating a digital signal, the logic level of said [first] digital signal being set based on whether said analog joystick measurement signal exceeds a predetermined threshold level, said digital signal being generated by an interface circuit having a second source voltage that is lower than the first source voltage;

(c) outputting said digital signal to a pulse generator;

(d) generating a pulse based on the logic level of said first digital signal, a width of said pulse representing a coordinate position of said joystick device; and

(e) outputting said pulse to said processor.

wherein the capacitance value of said capacitor is a function of said predetermined threshold level that prevents deviation of the width of said pulse from expected values.

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16. (Amended) The method of claim [15] 14, wherein

said steps (a) - (e) are performed in a first mode of operation;

[said step (a) receives said analog joystick measurement signal via a charge storage device;] and further including,

(f) placing said [charge storage device] capacitor in a discharged state in a second mode of operation.

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20. (Amended) The method of claim 14, wherein [said analog joystick measurement signal is generated by a Resistor-Capacitor (RC) network capacitor connected to said joystick device, and said method further comprises:

(f) preselecting the RC network] the capacitance value of said capacitor [in accordance with] satisfies the formula:

$$Cnew = \frac{11nF}{\ln\left(\frac{5V}{5V - Vtnew}\right)} \quad for\ Vtnew < 5.0\ Volts,$$

where Cnew represents the capacitance of the RC network capacitor, and Vtnew represents said predetermined threshold level.

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